## About This Document

This document contains instructions for DVR art. HDVR836B configuration and operation.

## Package Contents

The package contains the following:

- Digital Video Recorder
- Power Cord
- Quick User Guide (This Document)
- Software CD (User's Manual included)
- Rack-mount Kit
- Assembly Screws for Adding Hard Disk Drives
- SATA Cables
- Infrared Remote Control

## Notice

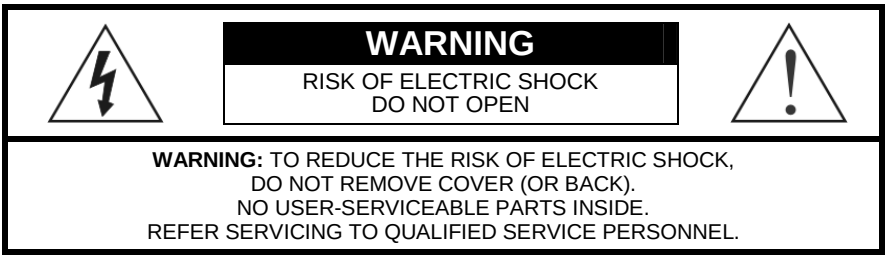
Specifications are subject to change without prior notice.

The information contained herein is to be considered for reference only.

The software included in this product contains some Open Sources. You may obtain the complete corresponding source code from us. See the Open Source Guide on the software CD (*OpenSourceGuide\OpenSourceGuide.pdf*).

This user guide covers the 8- and 16-channel digital video recorders. The DVRs are identical except for the number of cameras and alarms that can be connected and the number of cameras that can be displayed. For simplicity, the illustrations and descriptions in this document refer to the 16-camera model.

## Warning


WARNING
RISK OF ELECTRIC SHOCK
DO NOT OPEN
WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## Important Safeguards

### 1. Read Instructions
All the safety and operating instructions should be read before the appliance is operated.

### 2. Retain Instructions
The safety and operating instructions should be retained for future reference.

### 3. Cleaning
Unplug this equipment from the wall outlet before cleaning it. Do not use liquid aerosol cleaners. Use a damp soft cloth for cleaning.

### 4. Attachments
Never add any attachments and/or equipment without the approval of the manufacturer as such additions may result in the risk of fire, electric shock or other personal injury.

### 5. Water and/or Moisture
Do not use this equipment near water or in contact with water.

### 6. Ventilation
Place this equipment only in an upright position. This equipment has an open-frame Switching Mode Power Supply (SMPS), which can cause a fire or electric shock if anything is inserted through the ventilation holes on the side of the equipment.

### 7. Accessories
Do not place this equipment on an unstable cart, stand or table. The equipment may fall, causing serious injury to a child or adult, and serious damage to the equipment. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.
This equipment and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the equipment and cart combination to overturn.

### 8. Power Sources
This equipment should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power, please consult your equipment dealer or local power company.

### 9. Power Cords
Operator or installer must remove power and TNT connections before handling the equipment.

### 10. Lightning
For added protection for this equipment during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the equipment due to lightning and power-line surges.

### 11. Overloading
Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.

### 12. Objects and Liquids
Never push objects of any kind through openings of this equipment as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the equipment.

### 13. Servicing
Do not attempt to service this equipment yourself. Refer all servicing to qualified service personnel.

### 14. Damage requiring Service
Unplug this equipment from the wall outlet and refer servicing to qualified service personnel under the following conditions:

A. When the power-supply cord or the plug has been damaged.
B. If liquid is spilled, or objects have fallen into the equipment.
C. If the equipment has been exposed to rain or water.
D. If the equipment does not operate normally by following the operating instructions, adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the equipment to its normal operation.
E. If the equipment has been dropped, or the cabinet damaged.
F. When the equipment exhibits a distinct change in performance — this indicates a need for service.

15. Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

16. Safety Check

Upon completion of any service or repairs to this equipment, ask the service technician to perform safety checks to determine that the equipment is in proper operating condition.

17. Field Installation

This installation should be made by a qualified service person and should conform to all local codes.

18. Correct Batteries

Warning: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

19. Tmra

A manufacturer's maximum recommended ambient temperature (Tmra) for the equipment must be specified so that the customer and installer may determine a suitable maximum operating environment for the equipment.

20. Elevated Operating Ambient Temperature

If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature (Tmra).

21. Reduced Air Flow

Installation of the equipment in the rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.

22. Mechanical Loading

Mounting of the equipment in the rack should be such that a hazardous condition is not caused by uneven mechanical loading.

23. Circuit Overloading

Consideration should be given to connection of the equipment to supply circuit and the effect that overloading of circuits might have on over current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

24. Reliable Earthing (Grounding)

Reliable grounding of rack mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

## Disposal

WEEE (*Waste Electrical & Electronic Equipment*)

Correct Disposal of This Product
(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

# Specifications

| | |
|---|---|
| **Video** | |
| Signal Format | NTSC or PAL (Auto Detect) |
| Video Input | Local (Composite): 8/16 looping inputs, 1 Vp-p, auto-terminating, 75 Ohms<br>Network: 4 network devices (100Mbps/1Gbps Ethernet) |
| Monitor Outputs | HDMI: 1 HDMI<br>VGA: 1<br>SPOT: 1 BNC, 1 Vp-p, 75 Ohms |
| Video Resolution | HDMI/VGA: 1920x1080p, 1920x1080i, 1280x1024, 1024x768<br>Composite (SPOT): 704x480 (NTSC), 704x576 (PAL) |
| Record Speed | Real-time: 480ips (NTSC), 400ips (PAL) @ 4CIF (16-ch Model)<br>240ips (NTSC), 200ips (PAL) @ 4CIF (8-ch Model)<br>Network Device: 70ips @ 1920x1080, 120ips @ 1280x720 |
| Playback Speed | Full Duplex: 240ips (NTSC), 200ips (PAL) @ 4CIF (16-ch Model)<br>120ips (NTSC), 100ips (PAL) @ 4CIF (8-ch Model) |
| **Inputs/Outputs** | |
| Alarm Input | 8/16 terminal, programmable as NC or NO, 2.4V (NC) or 0.3V (NO) threshold, 5VDC |
| Alarm Output | 2 relay output, programmable as NC or NO, 2A@125VAC, 1A@30VDC |
| Alarm Reset Input | 1 TTL, terminal block |
| Internal Buzzer | 80dB at 10cm |
| Network Connectivity | 10Mbps/1Gbps Ethernet (RJ-45) |
| Audio Input | Local: RCA Input, 4 Line In<br>Network: 4, 100Mbps/1Gbps Ethernet |
| Audio Output | RCA Output: 1, Line Out |
| Text Input | POS Interface, ATM Interface |
| **Connectors** | |
| Video Input | Local (Composite): 8/16 BNC<br>Network: RJ-45 (100Mbps/1Gbps Ethernet) |
| Video Loop | Composite: 8/16 BNC (Auto Terminating) |
| Monitor Output | HDMI: 1 HDMI<br>VGA: 1 VGA<br>SPOT (Composite): 1 BNC |
| Audio In | Local: 4 RCA connector<br>Network: RJ-45 (100Mbps/1Gbps Ethernet) |
| Audio Out | 1 RCA connector |
| Alarm Input/Output | Terminal Blocks |
| Ethernet Port | 1 RJ-45 |
| eSATA Port | eSATA |
| RS232 Serial Port | DB9 (P) |
| RS485 Serial Port | Two-connector terminal block |
| IR Port | 1 Remote Control |
| USB Port | 2 (USB 2.0) |
| **Storage** | |
| Primary Storage | SATA hard disk drive (up to 4) (up to 3 with an internal DVD RW drive) |
| Secondary Storage | eSATA hard disk drive (RAID)<br>Built-in DVD RW drive<br>USB hard disk drive or flash drive |
| **General** | |
| Dimensions | 16.9" (W) x 3.5" (H) x 15.7" (D) (430mm x 88mm x 400mm) |
| Unit Weight | 17.9 lbs. (8.1kg) |
| Shipping Weight | 24.5 lbs. (11.1kg) |
| Shipping Dimensions | 21.3" (W) x 11.4" (H) x 23.2" (D) (540mm x 290mm x 590mm) |
| Operating Temperature | 41°F to 104°F (5°C to 40°C) |
| Operating Humidity | 0% to 90% |
| Power | 100 to 240 VAC, 1.2 – 0.6 A, 50/60Hz |
| Power Consumption | Max. 46W |
| Approvals | FCC, UL, CB, CE |

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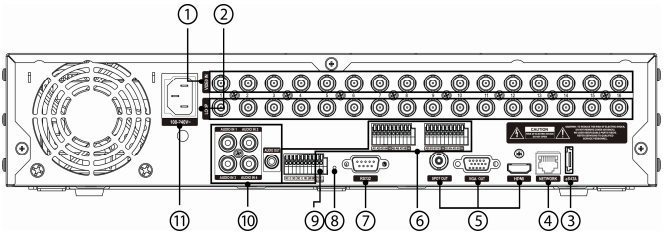
# Installation

No special tools are required to install the DVR. Refer to the installation manuals for the other items that make up part of your system.

Your DVR can be used with either NTSC or PAL equipment.

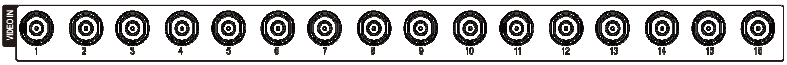
**NOTE: You cannot mix NTSC and PAL equipment. For example you cannot use a PAL camera and an NTSC monitor.**




< 16-Channel DVR rear panel >

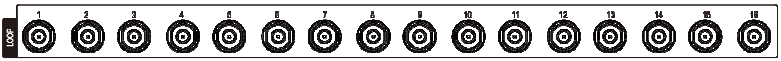
| | | | |
|---|---|---|---|
| ① Video Input | ② Video Loop Through | ③ eSATA Port | ④ Network Port |
| ⑤ Video Out | ⑥ Alarm Input/Output | ⑦ RS232 Port | ⑧ Factory Reset Switch |
| ⑨ RS485 Port | ⑩ Audio In/Out | ⑪ Power Cord Connector | |

## Video Input




Connect the coaxial cables from the video sources to the BNC Video In connectors.

## Video Loop Through




If you would like to connect your video source to another device, you can use the Loop BNC connectors.

**NOTE: The Loop BNC connectors are auto terminated. Do NOT connect a cable to the Loop BNC unless it is connected to a terminated device because it will cause poor quality video.**

## eSATA Port

An eSATA port is provided to connect external storage devices for recording video. Connect the external eSATA hard disk drive (RAID) cable to the eSATA port.

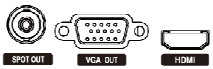
**CAUTION: Do NOT connect or disconnect eSATA devices while the DVR power is on. The DVR must be powered down to connect or disconnect eSATA devices. Power up eSATA devices so they are ready for operation before powering up the DVR. Power down eSATA devices after powering down the DVR and then disconnect eSATA devices.**

## Network Port

The DVR can be networked using the 10Mb/1Gb Ethernet connector. Connect a Cat5 cable with an RJ-45 jack to the DVR connector. The DVR can be networked with a computer for remote monitoring, searching, configuration and software upgrades.

**CAUTION: The network connector is not designed to be connected directly with cable or wire intended for outdoor use.**

## Video Out




**NOTE: Connect the monitor before the DVR boots so that video can be displayed on the monitor with the resolution you have set during system setup.**

An HDMI (High-Definition Multimedia Interface) connector is provided so that you can use an HDMI monitor as your primary monitor.

A VGA OUT connector is provided so that you can use a standard, multi-sync computer monitor as your primary monitor. Use the cable supplied with your monitor to connect it to the DVR.

Connect the spot monitor to the SPOT OUT connector as needed.

## Alarm Input/Output

**NOTE: To make connections on the Alarm Connector Strip, press and hold the button and insert the wire in the hole below the button. After releasing the button, tug gently on the wire to make certain it is connected. To disconnect a wire, press and hold the button above the wire and pull out the wire.**

AI 1 to 16 (Alarm-In): You can use external devices to signal the DVR to react to events. Mechanical or electrical switches can be wired to the AI (Alarm-In) and GND (Ground) connectors. The threshold voltage of electrical switches for NC (Normally Closed) is above 2.4V and for NO (Normally Open) is below 0.3V, and should be stable at least 0.5 seconds to be detected. The voltage range of alarm input is from 0V to 5V.

GND (Ground): Connect the ground side of the Alarm input and/or alarm output to the GND connector.

**NOTE: All the connectors marked GND are common.**

NC/NO (Relay Alarm Outputs): The DVR can activate external devices such as buzzers or lights. Connect the device to the C (Common) and NC (Normally Closed) or C and NO (Normally Open) connectors. NC/NO is a relay output which sinks 2A@125VAC and 1A@30VDC.

ARI (Alarm Reset In): An external signal to the Alarm Reset In can be used to reset both the Alarm Out signal and the DVR's internal buzzer. Mechanical or electrical switches can be wired to the ARI (Alarm Reset In) and GND (Ground) connectors. The threshold voltage is below 0.3V and should be stable at least 0.5 seconds to be detected. Connect the wires to the ARI and GND connectors.

## RS232 Port

An RS232 port is provided to connect a remote control keyboard.

## Factory Reset Switch

The DVR has a Factory Reset switch to the left of the RS232 connector on the rear panel. This switch will only be used on the rare occasions that you want to return all the settings to the original factory settings.

**CAUTION: When using the *Factory Reset*, you will lose any settings you have saved.**

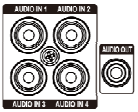
To reset the unit, you will need a straightened paperclip:

1. Turn the DVR off.
2. Turn it on again.
3. While the DVR is initializing, the front panel LEDs will blink. When the front panel LEDs blink, poke the straightened paperclip into the unlabeled hole to the left of the RS232 connector.
4. Hold the switch until the DVR's internal buzzer sounds twice.
5. Release the reset switch. All of the DVR's settings are now at the original settings it had when it left the factory.

## RS485 Port

The DVR can be controlled remotely by an external device or control system, such as a control keyboard, using RS485 half-duplex serial communications signals. The RS485 connector can also be used to control PTZ (pan, tilt, zoom) cameras. Connect RX+/TX+ and RX-/TX- of the control system to the + and – (respectively) of the DVR.

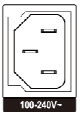
## Audio In/Out




Your DVR can record audio from up to four sources. Connect the audio sources to Audio In 1, Audio In 2, Audio In 3 and Audio In 4 as needed using RCA jacks. Connect Audio Out to your amplifier.

**NOTE: It is the user's responsibility to determine if local laws and regulations permit recording audio. The DVR does not have amplified audio output, so you will need a speaker with an amplifier. The DVR does not have a pre-amplifier for audio input, so the audio input should be from an amplified source, not directly from a microphone.**

## Power Cord Connector

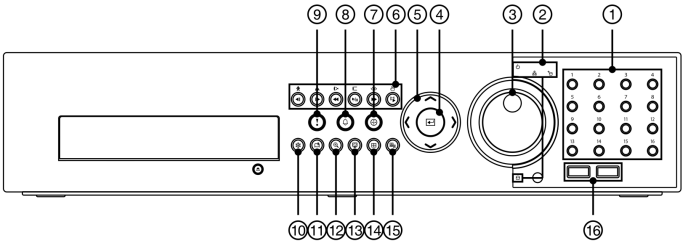



Connect the AC power cord to the DVR and then to a wall outlet.

**WARNING: ROUTE POWER CORDS SO THAT THEY ARE NOT A TRIPPING HAZARD. MAKE CERTAIN THE POWER CORD WILL NOT BE PINCHED OR ABRADED BY FURNITURE. DO NOT INSTALL POWER CORDS UNDER RUGS OR CARPET. THE POWER CORD HAS A GROUNDING PIN. IF YOUR POWER OUTLET DOES NOT HAVE A GROUNDING PIN RECEPTACLE, DO NOT MODIFY THE PLUG. DO NOT OVERLOAD THE CIRCUIT BY PLUGGING TOO MANY DEVICES IN TO ONE CIRCUIT.**

# Configuration

## Front Panel Buttons and LEDs




< 16-Channel DVR front panel >

| | | | |
|---|---|---|---|
| ① Camera Buttons | ② LED | ③ Jog Dial, Shuttle Ring | ④ Enter Button |
| ⑤ Arrow Buttons | ⑥ Playback Buttons | ⑦ PTZ Button | ⑧ Alarm Button |
| ⑨ Panic Button | ⑩ Freeze Button | ⑪ Bookmark Button | ⑫ Zoom Button |
| ⑬ Monitor Button | ⑭ Display Button | ⑮ Menu Button | ⑯ USB Port |

**NOTE: The infrared sensor on the DVR is just to the left of USB ports. Make certain that nothing blocks the sensor, or the remote control will not function properly.**

**When you use wireless communication devices (such as Wi-Fi or Bluetooth) near the DVR, the remote control might not function properly.**

**You can also use a USB mouse (not supplied) to navigate through the screens and menus much like you would on a computer.**

Camera Buttons

Pressing the individual camera buttons will cause the selected camera to display full screen. Pressing the buttons 1 to 4 toggles the camera selection between local cameras and network cameras. For example, pressing the button 1 displays the local camera number 1 and pressing the button 1 again displays the network camera number 1. Buttons 1 to 9 are also used to enter passwords.

LED

- Power LED: The Power LED is lit when the unit is On.
- Network LED: The Network LED is lit when the unit is connected to a network via Ethernet.
- eSATA LED: The eSATA LED is lit when an eSATA device is connected to the DVR.
- HDD LED: The HDD LED flickers when the DVR is recording or searching video on the hard disk drive.

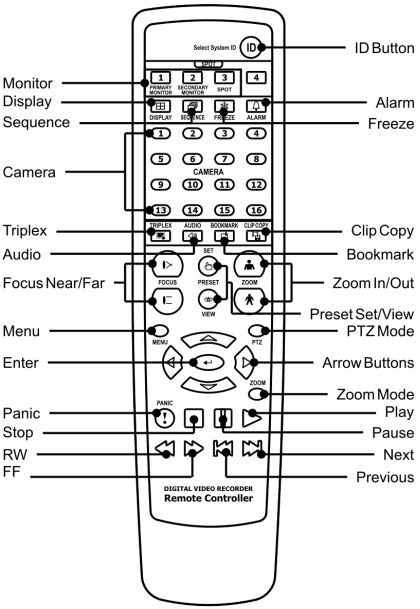
| | |
|---|---|
| Jog Dial, Shuttle Ring | • Jog Dial: When in the playback mode, you can play video forward image-by-image by turning the Jog Dial clockwise and backward image-by-image by turning the Jog Dial counterclockwise. When in the PIP mode, you can make the PIP screen smaller by turning the Jog Dial clockwise and larger by turning the Jog Dial counterclockwise. When in the Setup mode, you can change number values by highlighting the item in the menu and turning Jog Dial clockwise or counterclockwise to increase or decrease the number.<br>• Shuttle Ring: The Shuttle Ring only functions in the Playback mode. The Shuttle Ring is spring loaded and returns to the center position when released. Turning the ring clockwise plays video forward. Turning the ring counterclockwise plays video backward. Playback speed varies with the amount the ring is turned. When you release the ring, it snaps back to the center position and the video pauses. |
| Enter Button | The ↵ button selects a highlighted item or completes an entry that you have made during system setup. |
| Arrow Buttons | These buttons are used to navigate through menus and GUI. You can also use them to change numbers by highlighting a number in the menu and using the Up and Down arrow buttons to increase or decrease the number's value.<br>These buttons are also used to control Pan and Tilt when in the PTZ mode. When in the PIP display format, pressing the Up and Down arrow buttons moves the position of the small screen counter-clockwise and clockwise, and pressing the Left and Right buttons moves through screen pages. |
| Playback Buttons | • Backward: When in the pause mode, pressing the ◀I button moves to the previous image. The button is also used to Zoom Out while in the PTZ mode.<br>• Forward: When in the pause mode, pressing the I▶ button moves to the next image. The button is also used to Zoom In while in the PTZ mode.<br>• Rewind: Pressing the ◀◀ button plays video backward at high speed. The button is also used for Near Focus in the PTZ mode.<br>• Play/Pause: Pressing the ▶/II button plays back video at regular speed. The button is also used for Far Focus in the PTZ mode.<br>• Fast Forward: Pressing the ▶▶ button plays video forward at high speed. The button is also used to load a Preset View in the PTZ mode.<br>• Search/Stop: Pressing the button while in the Live Monitoring mode enters the Search mode. Pressing the button while in the Search mode returns the DVR to the Live Monitoring mode. The button is also used to save Presets while in the PTZ mode. |
| PTZ Button | Pressing the PTZ button enters the PTZ (Pan/Tilt/Zoom) mode which allows you to control properly configured cameras. |
| Alarm Button | The ALARM button has two functions. First, it will reset the DVR's outputs including the internal buzzer during an alarm. Second, it will display the event log when you are in the live monitoring mode unless there is an active alarm. |
| Panic Button | Pressing the PANIC button starts panic recoding of all camera channels, and displays ! on the screen. Pressing the button again will stop panic recording. |
| Freeze Button | Pressing the FREEZE button freezes the current live screen. |
| Bookmark Button | When in the playback mode, pressing the BOOKMARK button adds the current playback point to the bookmark list or moves to the registered bookmark point. |
| Zoom Button | Pressing the ZOOM button zooms the current image on the screen. A PIP with a rectangle temporarily displays showing what area of the screen has been enlarged. You can use the arrow buttons to move the rectangle to another area. |
| Monitor Button | Pressing the MONITOR button toggles the monitor selection between Primary and Spot. |
| Display Button | Pressing the DISPLAY button toggles between different display formats. The available formats are: PIP, 2x2, 3x2, 3x3, 4x3, 4x4 or 5x4. |

Menu Button

In the Live Monitoring mode and Search mode, pressing the MENU button displays the menu icons on the right edge of the screen. Pressing the button again hides the menu icons. During menu setup, pressing the button closes the current menu or setup dialog box.

In the Search mode clip-copying can be done instantly by pressing and holding the button for three or more seconds.

## IR Remote Control




### ID Button on Remote Control

If a DVR System ID is set to 0, the infrared remote control will control that DVR without any additional operations. If the system ID is 1 to 16, you must to press the ID button on the remote control and then press the number button (1 to 16) in order to control that DVR. If the System ID of two or more DVRs is set to 0, those DVRs will react to the infrared remote control at the same time.

### SEQUENCE Button on Remote Control

Pressing SEQUENCE button displays live channels sequentially.

### CLIP COPY Button on Remote Control

Pressing the CLIP COPY button allows you to copy video clips.

## Turning on the Power

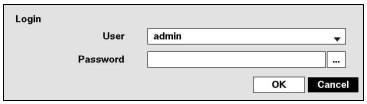
Connecting the power cord to the DVR turns on the unit. The unit takes approximately 60 seconds to initialize.

## Shutting down the System

Highlight Shutdown in the System menu and press the ↵ button. The Shutdown screen displays asking you to confirm whether or not you want to shut the system down. After selecting Shutdown in the screen and pressing the ↵ button, a screen will appear telling you when it is safe to disconnect power.

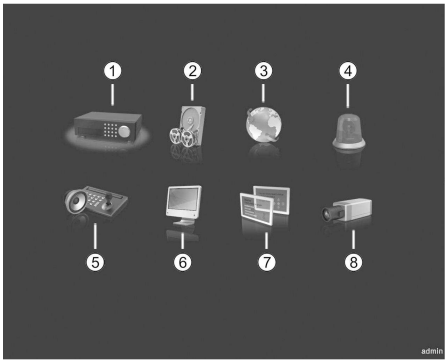
Before using your DVR for the first time, you will want to establish the initial settings. This includes items such as time and date, display language, camera, remote control, record mode, network and password. Your DVR can be set up using various screens and dialog boxes.

Press the MENU button or move the mouse pointer on the right edge of the screen and then select (Login) in the Live Monitoring menu to enter the setup screens. The Login screen appears.




Select a User and enter the password by pressing the appropriate combination of Camera number buttons and then the button. There is no default password when logging in the admin user for the first time. If you do not know the password, click the ? button for guidance.

Press the MENU button or move the mouse pointer on the right edge of the screen and then select (Setup) in the Live Monitoring menu.




① System
② Record
③ Network
④ Event
⑤ Device
⑥ Display
⑦ Status
⑧ Camera

| System Setup | Record Setup | Network Setup | Event Setup |
|---|---|---|---|
| General | General | General | Motion |
| Date/Time | Schedule | IP Address | Alarm-In |
| User | Pre-Event | DVRNS | Video Loss |
| Storage | Archive | RTSP | Video Blind |
| Monitoring | | Notification | Text-In |
| | | | Network |

| Device Setup | Display Setup | Status Setup | Camera Setup |
|---|---|---|---|
| Local Audio | OSD | Event | General |
| Network Audio | Primary Monitor | Storage | PTZ |
| Alarm-Out | Spot Monitor | | Network Camera |
| Remote Control | | | |

**NOTE: For detailed descriptions of the system setup, refer to the User's Manual on the software CD.**

# Operation

## Live Monitoring

While in the live monitoring mode, pressing the MENU button displays the following Live Monitoring menu on the right edge of the screen. Pressing the MENU button again hides the menu. You can navigate through menus and items by pressing the arrow buttons.

① Login/Logout ② Monitor ③ Display ④ Freeze ⑤ Alarm
⑥ Panic ⑦ Sequence ⑧ Camera Menu ⑨ Search ⑩ Setup

| | |
|---|---|
| **Login/Logout** | Selecting accesses the Login screen, and you will be asked to select a User and enter the password to log into the system. Selecting displays the Logout screen asking you to confirm whether or not you want to log out the current user. |
| **Monitor** | Selecting will allow you to select the monitor from Primary and Spot. |
| **Display** | Selecting displays the Display menu.<br>• Camera: Selecting Camera and choosing the camera number displays the selected camera full screen.<br>• Screen Format: Selecting Screen Format and choosing the screen mode displays the cameras in the selected multiview screen mode (PIP, 2x2, 3x2, 3x3, 4x3, 4x4 or 5x4).<br>• Previous/Next Group: Selecting Previous Group or Next Group moves to the previous or next page.<br>• Edit Group: Selecting Edit Group enters to the Active Cameo mode.<br>• Camera/Status OSD: Selecting Camera OSD or Status OSD toggles Camera OSD or Status OSD On and Off. |
| **Freeze** | Selecting will freeze the current image on the screen until you select again. |
| **Alarm** | Selecting resets the DVR's outputs including the internal buzzer during an alarm. |
| **Panic** | Selecting starts panic recording of all cameras, and selecting again stops panic recording. |
| **Sequence** | Selecting causes the cameras to display sequentially, and selecting again exits the Sequence mode. |

| | |
|---|---|
| **Camera Menu** | Selecting displays the Camera Menu.<br>• PTZ: Selecting PTZ and choosing the camera number allows you to control the selected camera as long as it has Pan, Tilt and Zoom capabilities.<br>• Zoom: Selecting Zoom and choosing the camera number zooms the current image of the selected camera on the screen.<br>• Audio: Selecting Audio toggles audio output On and Off.<br>• Mic: Selecting Mic toggles the DVR's audio that is sent to the network device On and Off.<br>• Color Control: Selecting Color Control and choosing the camera number allows you to control brightness, contrast, hue and saturation for each camera for the selected camera.<br>• Multi Stream: Selecting Multi Stream and choosing the network camera number allows you to select the desired stream when the selected camera has more than one stream. (Network Devices using the iNEX Protocol Only)<br>• Information: Selecting Information and choosing the network camera number allows you to check the information of the selected network camera. |
| **Search** | Selecting exits the live monitoring mode and enters the search mode. |
| **Setup** | Selecting enters the Main Setup screen. |

## Searching Video

While in the search mode, pressing the MENU button displays the following Search menu on the right edge of the screen. Pressing the MENU button again hides the menu. You can navigate through menus and items by pressing the arrow buttons.

① Search ② Go To ③ Display ④ Alarm ⑤ Panic
⑥ Camera Menu ⑦ Export ⑧ Data Source ⑨ Exit

| | |
|---|---|
| **Search** | Selecting displays the Search menu.<br>• Event Log Search: Selecting Event Log Search selects video from the event log.<br>• Record Table Search: Selecting Record Table Search selects using a recording table.<br>• Motion Search: Selecting Motion Search selects motion events.<br>• Text-In Search: Selecting Text-In Search selects text input strings. |

| | |
|---|---|
| **Go To** | Selecting displays the Go to menu.<br>• Go to the First: Selecting Go to the First displays the first recorded image.<br>• Go to the Last: Selecting Go to the Last displays the last recorded image.<br>• Go to the Date/Time: Selecting Go to the Date/Time allows you to set the date and time you want to search for video.<br>• Bookmark: Selecting Bookmark adds the current playback point to the bookmark list. |
| **Display** | Selecting displays the Display menu.<br>• Camera: Selecting Camera and choosing the camera number displays the selected camera full screen.<br>• Screen Format: Selecting Screen Format and choosing the screen mode displays the cameras in the selected multiview screen mode (PIP, 2x2, 3x2, 3x3, 4x3, 4x4 or 5x4).<br>• Previous/Next Group: Selecting Previous Group or Next Group moves to the previous or next page.<br>• Edit Group: Selecting Edit Group enters to the Active Cameo mode.<br>• Camera/Status OSD: Selecting Camera OSD or Status OSD toggles Camera OSD or Status OSD On and Off. |
| **Alarm** | Selecting resets the DVR's outputs including the internal buzzer during an alarm. |
| **Panic** | Selecting starts panic recording of all cameras, and selecting again stops panic recording. |
| **Camera Menu** | Selecting displays the Camera Menu.<br>• Zoom: Selecting Zoom and choosing the camera number zooms the current playback image of the selected camera on the screen.<br>• Audio: Selecting Audio toggles audio playback On and Off.<br>• Show/Hide Text-In: Selecting Show Text-In or Hide Text-In shows or hides the text-in data on the screen if the video was recorded with text-in data. |
| **Export** | Selecting displays the Export menu.<br>• A–B Clip-Copy: Selecting A–B Clip-Copy will set the starting point of the video to be clip copied, and the icon displays at the bottom-left corner of the screen. Selecting A–B Clip-Copy again will set the ending point of the video to be clip copied and displays the Clip-Copy screen.<br>• Clip-Copy: Select Clip-Copy, and the Clip-Copy screen appears to allow clip copy setup.<br>• Print: Selecting Print allows you to print a selected image. |
| **Data Source** | Selecting allows you to select the data source to be searched. |
| **Exit** | Selecting exits the search mode and enters the live monitoring mode. |

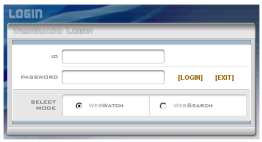
# Remote Program

## WebGuard

WebGuard allows you to access a remote DVR, monitor live video images and search recorded video using Internet Explorer web browser anytime from virtually anywhere.

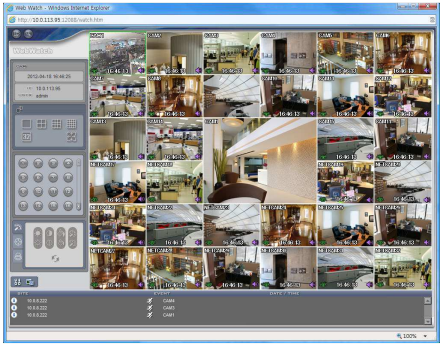
Start Internet Explorer on your local PC. You can run the WebGuard program by entering the following information in the address field.

- "http://IP address:port number" (The DVR IP address and the WebGuard port number (default: 12088) set in the Network setup screen (WebGuard tab))
- Or, "http://DVRNS server address/DVR name" (The DVRNS server address and the DVR name registered on the DVRNS server)
- Or, "http://www.dvronline.net" (Entering the DVR IP address or the DVR name will be required when logging in)

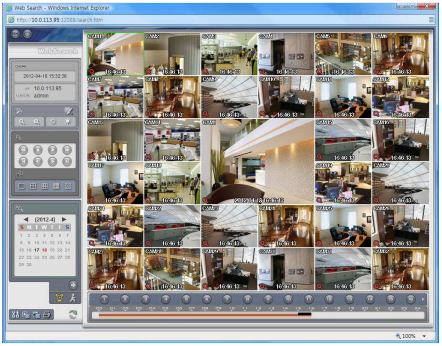



Select between the WEBWATCH (Web monitoring) and WEBSEARCH (Web search) modes. Entering ID and PASSWORD and clicking the [LOGIN] button logs in using the selected mode.

You will need to enter the DVR IP address in the DVR ADDRESS field when running the WebGuard program by entering http://www.dvronline.net. Selecting the Use DVRNS option allows you to enter the DVR name registered on the DVRNS server instead of the IP address. You must enter the DVRNS server address and port number in the SETUP setting when selecting the Use DVRNS option.



Web Monitoring



Web Search

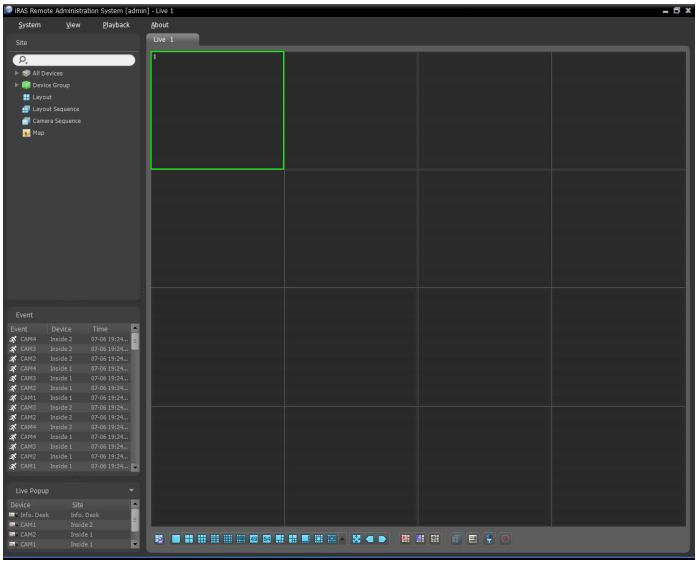
**NOTE: For detailed instructions on operating the WebGuard program, refer to the User's Manual on the software CD.**

iRAS, which is designed to be used with remote digital video recorder, is an integrated software program that controls system management, video monitoring, video recording and image playback of multiple remote sites.

**CAUTION: If an older version of software is installed on your computer, a screen appears asking you to upgrade the software. In this case, you are required to upgrade the software according to the instructions in the screen.**

Insert the installation CD and install the software following the instructions.

After installing the software, run the program as follows: Go to the Start menu on the PC → Click iRAS → Enter login information. Install the software following the instructions.




**NOTE: For detailed instructions on operating the program, refer to the User's Manual on the software CD.**

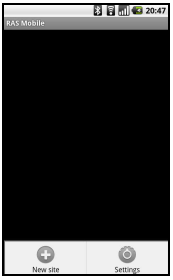
RAS Mobile allows you to access remote sites and monitor live video using mobile devices anytime from virtually anywhere.

**CAUTION: This program uses large amounts of data and you are responsible for all data charges. Please contact your service provider's customer service to confirm or add an unlimited data plan.**

## Android-based mobile devices

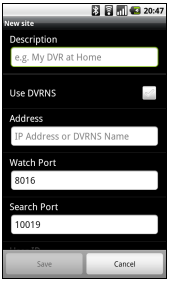
1. Run the Play Store (Google Play) application in the device.
2. Enter RAS Mobile in the search field of the Play Store (Google Play) application.
3. Install the RAS Mobile program and run the program.

4. Run the RAS Mobile program. Push the Menu button of the device and the following default menu is displayed.




- New site: Tap to register DVRs.
- Delete site: Tap to delete a DVR. This menu will be available only when there are DVRs registered.
- Settings: Tap to edit the settings or check the information about the RAS Mobile program.

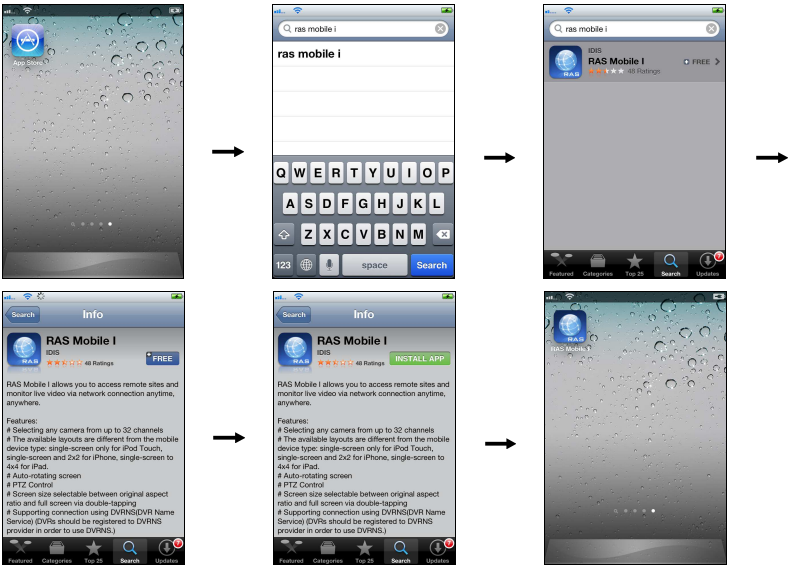
5. Tap the New site button and enter the DVR information to register the DVR.




- Description: Enter the DVR name to use in the RAS Mobile program.
- Use DVRNS: If the DVR uses the DVRNS function, enable the Use DVRNS option. You can set up the information for the DVRNS server by tapping the Settings button in the default menu.
- Address, Watch Port, Search Port, Audio Port: Enter the IP address and port number of the DVR. If the DVR uses the DVRNS function, check that the Use DVRNS option is enabled and enter the DVR name registered on the DVRNS server instead of the IP address. The name you enter should match the name set during the DVRNS setup on the DVR.
- User ID, Password: Enter the user ID and password. The user ID and password you enter should match the user ID and password used to log on to the DVR.

## iOS-based mobile devices

1. Run the App Store application in the device.
2. Enter RAS Mobile I in the search field of the App Store application.
3. Install the RAS Mobile I program and run the program.




4. Tap the + button and enter the DVR information to register the DVR.

- General: Enter the DVR name to use in the RAS Mobile I program.
- Connection Info: Enter the IP address and port number of the DVR. If the DVR uses the DVRNS function, enable the DVRNS option and enter the DVR name registered on the DVRNS server instead of the IP address. The name you enter should match the name set during the DVRNS setup on the DVR.
- Login Info: Enter the user ID and password set on the DVR. The user ID and password you enter should match the user ID and password used to log on to the DVR.